UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

June 3, 2010

Certified Mail No. 7008 3230 0000 3862 9298
Return Receipt Requested

Kathy Harder
Central Valley Water Board
11020 Sun Center Drive, Suite 200
Rancho Cordova, CA 95670

Re: NPDES Permit Renewal Issues, Aquatic Life and Wildlife Preservation, Sacramento Regional County Sanitation District, Sacramento Regional Wastewater Treatment Plant (NPDES Permit No. CA0077682)

Dear Ms. Harder:

Thank you for the opportunity to review and comment on the Aquatic Life and Wildlife Preservation NPDES Permit Renewal Issues Paper (NPDES Permit No. CA0077682), for the discharge from Sacramento Regional WWTP to the Sacramento River, which was public noticed on April 28, 2010. We have concerns about development of the draft permit that need to be addressed to ensure the permit effectively protects water quality and complies with NPDES requirements. Our comments focus primarily on addressing whole effluent toxicity, mixing zones, and antidegradation and antibacksliding regarding dissolved oxygen and temperature.

A. Chronic Toxicity

1. Effluent Limit

The Regional Board should include a numeric water quality-based effluent limit (WQBEL) for chronic whole effluent toxicity. EPA emphasizes that the Clean Water Act (CWA), NPDES regulations, EPA's Technical Support Document for Water Quality-based Toxics Control (TSD, USEPA 1991a) all clearly envision that effluent limits should be expressed numerically. (See CWA 301(b)(1)(C) and 502(11); 40 CFR 122.44(d)(1)(iv) and (k) and 122.2). By definition, 40 CFR 122.2 describes an effluent limitation as a restriction imposed . . . on quantities, discharge rates, and concentrations of 'pollutants'. According to 40 CFR 122.44(d)(v), limits on whole effluent toxicity are necessary when chemical-specific limits are not sufficient to attain and maintain applicable numeric or narrative water quality.

EPA does not object to WQBELs for toxicity serving to trigger initiation of a TRE/TIE process, but those WQBELs must also be enforceable. In the 1989 preamble to 40 CFR 122.44(d)(1), in response to public comment requesting that whole effluent toxicity (WET) not be used as an enforceable effluent limit, EPA stated: "EPA requires [WET] limits where necessary to meet water quality standards. EPA does not believe that a whole effluent toxicity trigger alone is fully effective because it does not by itself, restrict the quantity, rate, or concentrations of pollutants in the effluent." 54 Fed. Reg. 23868, 23875. Later, in the Great Lakes Initiative (GLI) rulemaking, EPA again rejected both narrative WET limits and alternative WET assessment procedures applied in lieu of WQBELs. Current EPA methodologies for calculating WQBELs for WET lead only to numeric WQBELs (e.g., Technical Support Document for Water Quality-based Toxics Control (EPA/505/2-90-001, 1991) and GLI). In response to comments on the GLI that permits should include monitoring with a TRE trigger and any limit should serve only as the objective for a TRE, EPA replied: "While EPA agrees that TREs are valuable tools in identifying and eliminating whole effluent toxicity, EPA does not agree that TREs can be used as a substitute for WET limits in permits." Following 40 CFR 122.44(d)(1), without WET limits, permitting authorities cannot assure that water quality standards for chronic toxicity will be attained.

Pending adoption of the chronic toxicity policy amendment to the State Implementation Plan, the Regional Board has been following State Water Resources Control Board guidance by including a narrative chronic toxicity effluent limit in permits where there is reasonable potential for the discharge to exceed water quality standards and requiring accelerated monitoring. It is clear that the TRE/TIE accelerated monitoring requirements in the existing permit did not result in the identification of the sources of toxicity in the effluent; however, as the Regional Board describes, pyrethroid pesticides are present in toxic amounts in the effluent and ammonia toxicity is a major concern. As all sources of toxicity in the effluent have not been identified, the Regional Board must impose an enforceable numeric chronic toxicity effluent limit in this permit.

2. Endpoints

State Permitting Authorities have the choice of either hypothesis testing or point-estimation techniques for developing permit conditions and determining compliance. The Regional Board has implemented the hypothesis testing approach and we encourage use of this approach in this permit. When implementing this approach, we recommend bracketing the instream waste concentration (IWC) by adjacent concentrations and applying a percent minimum significant difference (PMSD) as required in the test method manual. EPA guidance does not require a specific dilution series or procedure for selecting a dilution series, which includes the IWC. Rather, EPA recommends that test concentrations be selected which bracket the IWC and include the IWC as one of the test concentrations. In addition, the within-test variability of individual tests must be reviewed (EPA/821/R-02/013, 2002).

3. Accelerated Testing

The Regional Board should continue to include TRE/TIE accelerated monitoring requirements for chronic whole effluent toxicity in this permit; however, the Regional Board should modify the requirements to exclude the words "a pattern of," as this is subjective.

B. Acute Whole Effluent Toxicity Test Species

The Regional Board should include requirements for acute toxicity testing using *Oncorhynchus mykiss* (rainbow trout) to be protective of sensitive species, such as Delta Smelt and other pelagic fish species. The Regional Board should include requirements for the invertebrate, *Hyalella azteca*, in addition to testing with rainbow trout, for its sensitivity to pyrethroid pesticides.

C. Mixing Zones for Copper, Cyanide and Ammonia

The Regional Board must show how mixing zones for copper, cyanide, and ammonia will protect beneficial uses and maintain existing water quality. As described in the existing permit, the discharge exceeded water quality standards for these pollutants in the mid to late 1990s. It is not clear what modeling or monitoring has been, or will be used to support the provision of mixing zones or their dimensions. It is also not clear how the mixing zones will be used to develop dilution factors and back-calculate water quality-based effluent limits for these parameters. The Regional Board should ensure the discharger applies its best efforts to reduce copper and cyanide loading, and evaluate past efforts to decrease the levels of copper and cyanide in the influent through the pretreatment program.

D. Low Dissolved Oxygen

The Regional Board must show that antidegradation requirements are met before allowing an increase in flow from the permitted facility that could result in further degradation of the Sacramento River by low dissolved oxygen. The Regional Board concludes, "initial results indicate the expanded discharge will cause the dissolved oxygen in the Sacramento River to be less than the Basin Plan water quality objective if effluent ammonia and BOD remain at present concentrations." The Regional Board cannot allow an increased discharge of pollutants that decreases the dissolved oxygen concentration in the receiving water so that water quality standards are not achieved. Additional treatment for ammonia and nitrogen species may be necessary for the discharge to meet water quality standards.

E. Thermal Plan Exceptions

In incorporating any of the granted exceptions to the Thermal Plan into the NPDES permit, the Regional Board must show that antibacksliding and antidegradation requirements are met.

We appreciate the opportunity to provide input on development of the draft permit. If you would like to discuss these comments, please contact Elizabeth Sablad of my staff at (415) 972-3044.

Sincerely,

David Smith, Manager
NPDES Permits Office (WTR-5)